

DEPARTMENT OF ELECTRICAL ENGINEERING

Subject: Electrical Utilization (EEL801)

Semester –VIII (2019-20)

MCQ Question Bank

Q.1)	The consideration involved in the selection of the type of electric drive for a particular application depends upon
A	Speed control range and its nature
B	Starting Nature
C	Environmental condition
D	All of the above

Q.2)	The consideration involved in the selection of the type of electric drive for the Load Variation application depends upon
A	Constant Load
B	Continuous Variable Load
C	Pulsating Load
D	All of the above

Q.3)	_____ drive is also called as Line shaft drive
A	Individual drive
B	Multimotor drive
C	Group Drive
D	None of the above

Q.4)	In _____ drive each machine is driven by its own separate motor with the help of gears and pulley
A	Individual drive
B	Multimotor drive
C	Group Drive
D	None of the above

Q.5)	What is the total annual cost of a group drive with a motor costing Rs.18000
------	--

	with that of 10 individual motors, each costing Rs. 5000. The annual consumption is 80000 kWh. Electrical energy costs 20 paise per kWh. Depreciation, maintenance, and other fixed charges amount to 10 percent.
A	Rs. 16800
B	Rs.1800
C	Rs. 18000
D	Rs. 17800

Q.6)	Which type of drive can be used for Mining Process?
A	DC Motor with Ward Leonard Speed control
B	Double Squirrel cage Induction Motor
C	Slip Ring Induction Motor
D	All of the above

Q.7)	For an application which requires smooth and precise speed control over the wide range, the motor is preferred is
A	Squirrel cage Induction Motor
B	Synchronous Motor
C	DC motor
D	Wound Rotor Induction Motor

Q.8)	If the current in the armature of d.c series motor is reduced to 5%, the torque of the motor will become:
A	50% of the Previous Value
B	25% of the Previous Value
C	150% of the Previous Value
D	100% of the Previous Value

Q.9)	The series field of long shunt compound generator is excited by
A	Supply current
B	Field current
C	Load current
D	Armature current

Q.10)	Which of the following motors can be used as the part of the control circuit in
-------	---

	the robotic application?
A	AC series Motor
B	Universal Motor
C	Servo Motor
D	Scharge Motor

Q.11)	Typically, interlocks stop motors _____ but do not start motors _____
A	Manually, automatically
B	Automatically, manually
C	Automatically, Automatically
D	Manually, Manually

Q.12)	In case of a 3 phase induction motor, plugging is done by:
A	Starting the motor on load which is more than the rated load
B	Pulling the motor directly on line without a starter
C	Interchanging connections of any two phases of the stator for quick stopping
D	Locking of the rotor due to harmonics

Q.13)	A 3-phase delta connected squirrel cage induction motor when started with a DOL starter has a starting torque of 600 NM. Its starting torque when star delta starter is used:
A	600 NM.
B	200 NM
C	300 NM
D	1200 NM

Q.14)	In the case of contactor the rated current can carry upto _____ hours without exceeding temperature.
A	8 Hours
B	1 Hours
C	3 Hours
D	5 Hours

Q.15)	Which type of Motor is best suited for the excavator?
-------	---

A	DC Shunt Motor
B	Differential Motor
C	DC series Motor
D	Synchronous Motor

Q.16)	Wound rotor and squirrel-cage motors with the high slip which develop maximum torque at standstill are used for
A	Presses and Punches
B	Machine tools
C	Elevators
D	All of the above

Q.17)	The power factor of the reluctance motor at full load is
A	Unity
B	0.2 – 0.3
C	0.8
D	0.6 – 0.7

Q.18)	The efficiency of the reluctance motor is around
A	95%
B	90%
C	70 to 80%
D	60 to 75%

Q.19)	In case of kiln drives
A	Starting torque is almost zero
B	Starting torque and running torque is nearly equal
C	Starting torque is more than double of the running torque.
D	None of the above

Q.20)	Belt conveyors offer
A	Zero starting torque
B	Low starting torque
C	Medium starting torque
D	High starting torque

Q.21)	The traveling speed of the crane varies from
A	1 to 2.5 m/s
B	5 to 10 m/s
C	10 to 20 m/s
D	25 to 40 m/s

Q.22)	A synchronous Motor is found more economical when the load is above
A	1 kW
B	10 kW
C	20 kW
D	100 kW

Q.23)	Regenerative braking mode can be achieved in which quadrant (V-I curve)?
A	Third
B	Second
C	Fourth
D	First

Q.24)	Type-A chopper is used for obtaining which type of mode?
A	Motoring mode
B	Regenerative braking mode
C	Reverse motoring mode
D	Reverse regenerative braking mode

Q.25)	Calculate the value of angular acceleration of motor using the given data: $J = 20$ kg-m ² , load torque = 20 N-m, motor torque = 60 N-m.
A	5 rad/s ²
B	2 rad/s ²
C	3 rad/s ²
D	4 rad/s ²

Q.26)	230V, 10A, 1500rpm DC separately excited motor having resistance of .2 ohm
-------	--

	excited from external dc voltage source of 50V. Calculate the torque developed by the motor on full load.
A	13.89 N-m
B	14.52 N-m
C	13.37 N-m
D	14.42 N-m

Q.27)	Calculate the power developed by motor using the given data: $E_b = 20\text{V}$ and $I = 10\text{ A}$. (Assume rotational losses are neglected)
A	400 W
B	200 W
C	300 W
D	500 W

Q.28)	250V, 15A, 1100 rpm separately excited dc motor with armature resistance (R_a) equal to 2 ohms. Calculate back emf developed in the motor when it operates on half of the full load. (Assume rotational losses are neglected)
A	210V
B	240V
C	230V
D	235V

Q.29)	Calculate the value of the angular acceleration of the motor using the given data: $J = 50\text{ kg-m}^2$, load torque = 40 N-m, motor torque = 10 N-m.
A	-.7 rad/s ²
B	-.6 rad/s ²
C	-.3 rad/s ²
D	-.4 rad/s ²

Q.30)	Calculate the moment of inertia of the flywheel of mass 45 kg and radius of 2 m.
A	185 kg-m ²
B	180 kg-m ²
C	175 kg-m ²
D	170 kg-m ²

Q.31)	What is Load Equalisation?
A	Process of smoothing the fluctuating load
B	Process of removing the load
C	Process of changing the voltage level
D	Process of changing the speed

Q.32)	Which of the following motor can be referred as a universal motor?
A	DC shunt motor
B	DC compound motor
C	Permanent magnet motor
D	DC series motor

Q.33)has least range of speed control
A	Slip ring induction motor
B	Synchronous motor
C	DC shunt motor
D	Schrage motor

Q.34)	In series motor which of the following methods can be used for changing the flux per pole?
A	Tapped field control
B	Diverter field control
C	Series-parallel control
D	Any of the above

Q.35)	Which feature while selecting a motor for centrifugal pump will be of least significance?
A	Starting characteristics
B	Operating speed
C	Horse power
D	Speed control

Q.36)	While selecting an electric motor for a floor Mill, which electrical characteristics will be of least significance ?
A	Running characteristics
B	Starting characteristics
C	Efficiency
D	Breaking

Q.37)	In..... method of starting three phase induction motors the starting voltage is not reduced
A	Auto transformer
B	Star Delta
C	Slip ring
D	Any of the above

Q.38)	For which off the following applications DC motors are still preferred?
A	High operation
B	Variable speed drive
C	High starting torque
D	Reversibility

Q.39) has relatively wider range of speed control
A	Synchronous motor
B	Slip ring induction motor
C	Squirrel case induction motor
D	DC shunt motor

Q.40)	Which of the following happens when start Delta starter is used?
A	Starting voltage is reduced
B	Starting current is reduced
C	None of the above
D	Both A and B

Q.41)	In which of the following applications variable speed operation is preferred?
A	Exhaust fan
B	Ceiling fan
C	Refrigerator
D	Water pump

Q.42)	In squirrel cage induction motors which of the following methods of starting cannot be used?
A	Resistance in rotor circuit
B	Resistance in stator circuit
C	Auto transformer starting
D	Start Delta starting

Q.43)	The basic elements of an electric drive are
A	Electric motor and the transmission system
B	Electric motor, the transmission and control system
C	The transmission and control system
D	

Q.44)	In jaw crushers a motor has to often start against..... load
A	Heavy
B	Medium
C	Normal
D	Low

Q.45)	Which of the following alternatives will be cheaper?
A	A 100 HP ac three phase motor
B	Four motors of 25 HP each
C	Five motors of 20 HP each
D	10 motors of 10 HP each

Q.46)	By the use of which of the following DC can be obtained from AC?
A	Silicon diodes
B	Mercury arc rectifier
C	Motor generator set
D	Any of the above

Q.47)	Which of the following types of motor and enclosure is safest?
A	Totally enclosed
B	Totally enclosed fan cooled
C	Open time
D	Semi closed

Q.48)	The capacity of a crane is expressed in terms of
A	Type of drive
B	Span
C	Tonnes
D	Any of the above

Q.49)	Which motor is used for blowers
A	DC compound motor
B	DC shunt motor
C	DC series motor
D	Squirrel cage motor

Q.50)	Selection of motor for any application depends on which factor
A	Mechanical characteristic
B	Electrical characteristic
C	Cost
D	All of the above

Q.51	The optical instrument used for the comparison of candle power of different sources are known as
A.	Candle meters
B.	Radiometers
C.	Bunsen meter
D.	Photometer

Q.52	Light is produced in electric discharge lamps by
A.	Heating effect of current
B.	Magnetic effect of current
C.	Ionization in a gas or vapor
D.	Carbon electrodes

Q.53	The source of illumination for a cinema projector is
A.	Mercury Vapour Lamp
B.	Sodium Lamp
C.	Incandescent Lamp
D.	Carbon Arc lamp

Q.54	The unit of solid angle is
A.	solid angle
B.	radian
C.	steradian
D.	candela

Q.55	For the same wastage which lamp is cheapest?
A.	Sodium vapor lamp
B.	Mercury vapor lamp
C.	Fluorescent tube
D.	GLS lamps.

Q.56	Lumen/watt is the unit of
A.	Light flux
B.	Luminous intensity
C.	Brightness
D.	Luminous efficiency.

Q.57	Which bulb operates on lowest power?
A.	Night bulb
B.	Neon bulb
C.	GLS
D.	Torch bulb

Q.58	Brightness of luminance measured in
A.	Phot
B.	Lumens
C.	Stilb
D.	Lux

Q.59	Reflection factor is
A.	Less than unity
B.	More than unity
C.	Equal to unity
D.	0

Q.60	A lamp has mean spherical CP of 25 Calculate the total flux of light from the lamp
A.	300
B.	314
C.	320
D.	324

Q.61	_____ with beam spread between 25° - 40°
A.	Narrow beam projectors
B.	Medium beam projectors
C.	Wide angle projectors
D.	None of the above

Q.62	_____ are used for distance more than 70 metres.
A.	Narrow beam projectors
B.	Medium beam projectors
C.	Wide angle projectors
D.	None of the above

Q.63	The value of maintenance factor is ____
A.	0.7
B.	0.8
C.	0.9
D.	0.6

Q.64	The value of depreciation factor is ____
A.	1.0
B.	1.2
C.	1.3
D.	1.5

Q.65	_____ scheme 60-90 percent of total light flux is thrown upwards to the ceiling for diffuse reflection.
A.	Semi direct lighting
B.	Semi indirect lighting
C.	Indirect lighting
D.	General lighting

Q.66	_____ scheme more than 90 percent of total light flux is thrown upwards to the ceiling for diffuse reflection.
A.	Semi direct lighting
B.	Semi indirect lighting
C.	Indirect lighting
D.	General lighting

Q.67	Lumens efficiency is expressed in
A.	Lumens
B.	Lumens/watt
C.	Lux
D.	Watt

Q.68	The radiant efficiency of the luminous source depends on
A.	The shape of the source
B.	The temperature of the source
C.	The wavelength of the light rays
D.	All of the above

Q.69	The unit of luminous flux is
A.	Steradian
B.	Candela
C.	Lumen
D.	Lux

Q.70	The illumination is directly proportional to the cosine of the angle made by the normal to the illuminated surface with the direction of the incident flux. Above statement is
------	--

	associated with
A.	Planck's law
B.	Macbeth's law of illumination
C.	Bunsen's law of illumination
D.	Lambert's cosine law

Q.71	Which cells in the eye are responsible for vision
A.	Cone cells
B.	Rod cells
C.	Both 'a' and 'b'
D.	None of these

Q.72	The range of visual spectrum is
A.	300nm - 1000nm
B.	480nm - 1000nm
C.	480nm - 760nm
D.	300nm - 760nm

Q.73	Illumination can be expressed in
A.	radians
B.	lux
C.	lumens
D.	candela

Q.74	One lumen per square meter is the same as
A.	One lux
B.	One Candela
C.	One-foot candle
D.	One lumen meter

Q.75	Total flux or lumens required in any lighting scheme depends inversely on
A.	utilization factor
B.	reduction factor
C.	reflection factor
D.	none of the above

Q.76	Glare is caused due to
A.	Excessive luminance
B.	Excessive lighting contrast in the field of vision
C.	Either A or B
D.	None of the above

Q.77	Candle power is
A.	The luminous flux emitted by the source per unit solid angle
B.	The light radiating capacity of a source in a given direction
C.	Either A or B
D.	None of the above

Q.78	The lens form an inverted real image on
A.	Cornea
B.	Pupi
C.	Retina
D.	None of the above

Q.79	The illumination at the various points on a horizontal surface illuminated by the same source varies as
A.	$\cos \theta$
B.	$\cos^2 \theta$
C.	$\cos^3 \theta$
D.	$1/\cos \theta$

Q.80	Which off the following lambs is a cold cathode lamp ?
A.	Sodium vapour lamp
B.	Mercury vapour lamp
C.	Neon lamp
D.	None of the above

Q.81	Which off the following is present inside the fluorescent tube?
------	---

A.	Helium and oxygen
B.	Aragon and carbon dioxide
C.	Aragon and neon
D.	Mercury vapour

Q.82	A fluorescent tube can be operated on
A.	Both DC and AC supply
B.	Only AC supply
C.	Only DC supply
D.	Satisfactory only on the supply

Q.83	For normal reading the illumination level required is around
A.	22 to 40 lumens/m ²
B.	60 to 100 lumens/m ²
C.	200 to 300 lumens/m ²
D.	Any of the above

Q.84	In electric discharge lamps, light is produced by:
A.	Magnetic effect of current
B.	Heating effect of current
C.	Cathode ray emission
D.	Ionization in a gas or vapour

Q.85	The color having longest wave length is:
A.	Blue
B.	Yellow
C.	Orange
D.	Red

Q.86	Heat from the filament lamp is transmitted to the surroundings mainly through
A.	Radiation
B.	Convection
C.	Conduction
D.	Circulation

Q.87	The lamp that cannot sustain much voltage fluctuations is:
A.	Mercury iodide lamp
B.	Incandescent lamp
C.	Mercury vapour lamp
D.	Sodium vapour lamp

Q.88	A zero watt lamp consumes
A.	no power
B.	about 5 to 7 W power
C.	about 15 to W power
D.	about 25 to 30 W power

Q.89	Which gas is sometimes used in filament lamps?
A.	Argon
B.	Krypton
C.	Nitrogen
D.	Carbon dioxide

Q.90	The color temperature of day light is around
A.	50 K
B.	160 K
C.	600 K
D.	6000 K

Q.91	Which lamps can be directly connected to a solar cell?
A.	Incandescent
B.	Metal Halide
C.	Compact Fluorescent
D.	LED

Q.92	The polar curves are used to find out the
A.	MHCP
B.	MSCP
C.	Both (a) and (b)
D.	None of these

Q.93	According to the first law of illumination, the illumination of a surface due to a source of light is
A.	Inversely proportional to the distance between the surface and the source of light
B.	Inversely proportional to the square of the distance between the surface and the source of light
C.	Directly proportional to the distance between the surface and the source of light
D.	Directly proportional to the square of the distance between the surface and the source of light

Q.94	Reduction factor of a source of light is the ratio of its
A.	Mean horizontal candle power to the mean spherical candle power
B.	Mean spherical candle power to the mean horizontal candle power
C.	Maximum horizontal candle power to the mean spherical candle power
D.	Mean spherical horizontal candle power to the maximum spherical candle power

Q.95	With increase in temperature of the body, the emission of light waves is
A.	Increases
B.	Decreases
C.	Remains same
D.	None of these

Q.96	Carbon arc lamps are commonly used in
A.	Domestic lighting
B.	Street lighting
C.	Cinema Projector
D.	Photography

Q.97	Illumination level required for precision work is around
A.	50 lm/m ²
B.	100 lm/m ²
C.	200 lm/m ²
D.	500 lm/m ²

Q.98	The radiant efficiency of the luminous source depends on
------	--

A.	The shape of the source
B.	The temperature of the source
C.	The wavelength of the light rays
D.	All of the above

Q.99	The illumination level in houses is in the range
A.	10-20 lumens/m ²
B.	30-40 lumens/m ²
C.	40-75 lumens/m ²
D.	100-140 lumens/m ²

Q.100	The standard wattage of 3ft. fluorescent tube is
A.	10 W
B.	40 W
C.	65 W
D.	100 W

Q.101)	Electrochemical equivalent may be defined as the _____ of the substance deposited by the passage of 1 coulomb of electricity.
A	Volume
B	Weight
C	Density
D	Velocity

Q.102)	According to Faraday's second law, the weights of different substances evolved by the passage of the same quantity of electricity are proportional to their _____
A	Chemical equivalent weight
B	Current supply
C	Chemical equivalent density
D	Volume

Q.103)	According to Faraday's first law of electrolysis, the amount of any substance deposited at the electrode is directly proportional to the quantity of _____
--------	--

A	Voltage drop
B	Resistance
C	Electricity passed
D	Tolerance

Q.104)	Silver is electrodeposited on a metallic vessel of surface area 800 cm^2 by passing a current of 0.2 A for 3 hours. The thickness of silver deposited is _____
A	0.1 mm
B	0.02 mm
C	0.05 mm
D	0.2 mm

Q.105)	The unit of ionic mobility in SI system is _____
A	msV^{-1}
B	m^3sV^2
C	$\text{m}^2\text{s}^{-1}\text{V}^{-1}$
D	$\text{m}^2\text{s}^{-1}\text{V}$

Q.106)	Refined bauxite is dissolved in molten cryolite at a temperature slightly below _____
A	0°C
B	100°C
C	2000°C
D	1000°C

Q.107)	Which of the following factor does not affect ionic mobility?
A	Pressure
B	Nature of ions
C	Temperature
D	Concentration of the solution

Q.108)	The velocity with which an ion moves under a potential gradient of _____ volt/cm in a solution is called ionic mobility.
A	5
B	1

C	4
D	3

Q.109)	The power required for electro-deposition is
A	DC and very low voltage
B	DC and high voltage
C	AC and very low voltage
D	AC and high voltage

Q.110)	Throwing power is the ability of the electrolyte to produce
A	Uniform deposit on an article of regular shape
B	Uniform deposit on an article of irregular shape
C	Non - uniform deposit on an article of regular shape
D	Non - uniform deposit on an article of irregular shape

Q.111)	The energy required for refining of gold in kWh / tone is about
A	100 to 150
B	250 to 350
C	300 to 350
D	350 to 400

Q.112)	The metal oxide rectifier used for electrolytic process is placed along with the transformer
A	Inside the oil
B	Outside the transformer but near to it
C	Outside the transformer but far from it
D	Half immersed in the oil

Q.113)	Throwing power can be improved by
A	Increasing distance between the anode and cathode
B	By reducing the voltage drop at the cathode
C	By increasing current density
D	Only (a) and (b)

Q.114)	The metal which can be extracted from its ore by the method of electrolysis is
A	Zinc

B	Aluminium
C	Copper
D	All of these

Q.115)	If a lead-acid cell is discharged below 1.8 V the following will happen.
A	Capacity of cell will reduce
B	Sulphation of plates will occur
C	Internal resistance will increase
D	All above will occur

Q.116)	The internal resistance of a lead-acid cell is that of Edison cell
A	Less than
B	More than
C	Equal to
D	None of the above

Q.117)	On overcharging a battery
A	It will bring about chemical change in active materials
B	It will increase the capacity of the battery
C	It will raise the specific gravity of the electrolyte
D	None of the above will occur

Q.118)	Battery charging equipment is generally installed
A	In well ventilated location
B	In clean and dry place
C	As near as practical to the battery being charged
D	In location having all above features

Q.119)	Which of the following is incorrect?
A	A storage cell has a reversible chemical reaction
B	A lead-acid cell can be recharged
C	A carbon-zinc cell has unlimited shelf life
D	A primary cell has an irreversible chemical reaction
Q.120)	Mercury cell has which of the following characteristics?
A	Flat discharge current-voltage curve
B	High power to weight ratio
C	Comparatively longer shelf life under adverse conditions of high temperature and

	humidit
D	All of the above

Q.121)	Charging of sulphated battery produces _____ heat.
A	No
B	Very Little
C	Less
D	More

Q.122)	48 ampere-hour capacity would deliver a current of
A	48 amperes for 1 hour
B	24 amperes for 2 hours
C	8 amperes for 6 hours
D	6 amperes for 8 hours

Q.123)	Which of the following factors adversely affects the capacity of the lead-acid battery?
A	Temperature of surroundings
B	Specific gravity of electrolyte
C	Rate of discharge
D	All of the above

Q.124)	In a lead-acid cell, lead is called as
A	Positive active material
B	Negative active material
C	Passive material
D	None of the above

Q.125)	Following will happen if battery charging rate is too high
A	Excessive gassing will occur
B	Temperature rise will occur
C	Bulging and buckling of plates will occur
D	All above will occur

Q.126)	The current flow through electrolyte is due to the movement of
A	Ions

B	Holes
C	Electrons
D	None of the above

Q.127)	The storage battery generally used in electric power station is
A	Nickel-cadmium battery
B	Zinc-carbon battery
C	Lead-acid battery
D	None of the above

Q.128)	In _____ system the charging current is intermittently controlled at either a maximum or minimum value
A	Two rate charge control
B	Trickle charge
C	Floating charge
D	An equalizing charge

Q.129)	The internal resistance of an alkali cell is nearly _____ times that of the lead-acid cell.
A	Two
B	Three
C	Four
D	Five

Q.130)	Local action in a battery is indicated by
A	Excessive gassing under load conditions
B	Excessive drop in the specific gravity of electrolyte even when the cell is on open circuit
C	Both (A) and (B)
D	None of the above

Q.131)	How is the material removed in Electropolishing process?
A	Anodic dissolution
B	Cathodic dissolution

C	Chemical corrosion
D	Mechanical erosion

Q.132)	Which of the following takes place if the current density used is relatively high?
A	Smoothing
B	Finishing
C	Oxygen evolution
D	All of the mentioned

Q.133)	Capacity of one lead accumulator cell is _____?
A	1.5 volts
B	2 volts
C	3 volts
D	1 volts

Q.134)	Leclanche cell Daniel cell is an example of
A	both dry cell
B	both wet cell
C	dry cell, wet cell
D	wet cell, dry cell

Q.135)	Which of the following is not an application of electroplating?
A	Decorative purposes
B	Coating of metal
C	Metal protection
D	Corrosion prevention

Q.136)	Discharge difficulty is highest in _____
A	Calcium ions
B	Copper ions
C	Lead ions
D	Silver ions

Q.137)	The capacity of a battery is expressed in terms of
A	Current rating
B	Voltage rating

C	Ampere hour rating
D	None of the above

Q.138)	The storage battery generally used in electric power station is
A	Nickel-cadmium battery
B	Zinc carbon battery
C	Lead-acid battery
D	None of the above

Q.139)	Trickle charger of a storage battery helps to
A	Maintain proper electrolyte level
B	Increase its reverse capacity
C	Prevent sulphation
D	Keep it fresh and fully charged

Q.140)	On over charging a battery
A	It will bring about chemical change in active materials
B	It will increase the capacity of the battery
C	It will raise the specific gravity of the electrolyte
D	None of the above

Q.141)	Ampere hour capacity of an industrial battery is based onhours discharge rate
A	8
B	12
C	16
D	24

Q.142)	When two batteries are connected in parallel, it should be ensured that
A	They have same emf
B	They have same make
C	They have same ampere hour capacity
D	They have identical internal resistance

Q.143)	A dead storage battery can be revived by
A	Adding distilled water

B	Adding so-called battery restorer
C	A dose of H_2SO_4
D	None of the above

Q.144)	The open circuit voltage of any storage cell depends wholly upon
A	Its chemical constituents
B	On the strength of its electrolyte
C	Its temperature
D	All of the above

Q.145)	The current in a chemical cell is a movement of
A	Positive ions only
B	Positive and negative ions
C	Negative ions only
D	Positive hole charges

Q.146)	In constant voltage charging method, the charging current from discharged to fully charged condition
A	Decreases
B	Increases
C	Remains constant
D	None of the above

Q.147)	Dry cell is modification of
A	Deniell cell
B	Leclanche cell
C	Lead-acid cell
D	Edison cell

Q.148)	Short circuiting of a cell may be caused
A	Buckling of plates
B	Faulty separators
C	Lead particles forming circuit between positive and negative plates
D	Any one of above

Q.149)	The charge required to liberate one gram equivalent of any substance is known as
--------	--

	_____ constant.
A	Time
B	Faraday's
C	Boltzmann
D	None of these

Q.150)	The open circuit voltage of any storage cell depends wholly upon
A	Its chemical constituents
B	On the strength of its electrolyte
C	Its temperature
D	All above

Q.151)	All the electrical connections between the battery and vehicle should be by
A	Thin aluminium wires
B	Thin copper wires
C	Rigid cables
D	Flexible cables

Q.152)	Which of the following primary cells has the lowest voltage?
A	Lithium
B	Zinc-chloride
C	Mercury
D	Carbon-zinc

Q.153)	The capacity of a lead-acid cell does not depend on its
A	Temperature
B	Rate of charge
C	Rate of discharge
D	Quantity of active material

Q.154)	The active material of the positive plates of silver-zinc batteries is
A	Silver oxide
B	Lead oxide
C	Lead
D	Zinc powder

Q.155)	Batteries are charged by
A	Rectifiers
B	Engine generator sets
C	Motor generator sets
D	Any one of the above methods

Q.156)	When the load resistance equals the generator resistance which of the following will be maximum?
A	Current
B	Efficiency of the circuit
C	Power in the load resistance
D	Voltage across the load resistance

Q.157)	The e.m.f. of an Edison cell, when fully charged, is nearly
A	1.4V
B	1V
C	0.9V
D	0.8V

Q.158)	In constant-current charging method, the supply voltage from discharged to fully charged condition
A	Decreases
B	Increases
C	Remains constant
D	None of the above

Q.159)	Life of the batteries is in the following ascending order.
A	Lead-acid cell, Edison cell, Nickel cadmium cell
B	Lead-acid cell, Nickel-cadmium cell, Edison cell
C	Edison cell, Nickel-cadmium cell, lead-acid cell
D	Nickel-cadmium cell, Edison cell, lead-acid cell

Q.160)	Charging a sulphated battery at high rate results in
A	Boiling of electrolyte due to gassing
B	Warping of plates
C	Damage to separators, cell caps covers and battery case due to excessive temperature
D	All above

Q.161)	Which of the following cell has a reversible chemical reaction?
A	Lead-acid
B	Mercury oxide
C	Carbon-zinc
D	Silver-oxide

Q.162)	Persons preparing electrolyte should wear
A	Goggles or other face shield
B	Rubber
C	Rubber boots and gloves
D	All above safety devices

Q.163)	Which of the following battery is used for aircraft?
A	Lead-acid battery
B	Nickel-iron battery
C	Dry cell battery
D	Silver oxide battery

Q.164)	As compared to a lead-acid cell, the efficiency of a nickel-iron cell is less due to its
A	Compactness
B	Lower e.m.f.
C	Small quantity of electrolyte used
D	Higher internal resistance

Q.165)	Which of the following primary cells has the highest voltage?
A	Manganese-alkaline
B	Carbon-zinc
C	Lithium
D	Mercury

Q.166)	Lead-acid cell has a life of nearly charges and discharges
A	500
B	700
C	1000
D	1250

Q.167)	The substances which combine together to store electrical energy during the charge are called _____ materials
A	Active
B	Passive
C	Inert
D	Dielectric

Q.168)	Battery container should be acid resistance; therefore it is made up of
A	Glass
B	Plastic
C	Wood
D	All above

Q.169)	_____ of electrolyte indicates the state of charge of the battery
A	Color
B	Mass
C	Viscosity
D	Specific gravity

Q.170)	A typical output of a solar cell is
A	0.1V
B	0.26V
C	1.1V
D	2V

Q.171)	Select the incorrect statement from the following option.
A	Fuel cells have high efficiency
B	The emission levels of fuel cells are far below the permissible limits
C	Fuel cells are modular
D	The noise levels of fuel cells are high

Q.172)	_____ and suitable catalyst are required to promote high rate of electrode processes.
A	Lower temperature
B	Higher temperature
C	Moderate temperature
D	Very low temperature

Q.173)	A stable interface between solid _____ liquid _____ and gaseous _____ promotes high rate of electrode processes.
A	Fuel, electrolyte, electrode
B	Electrode, fuel, electrolyte
C	Electrode, electrolyte, fuel
D	Fuel, electrode, electrolyte

Q.174)	Which of the following is not an example of a fuel cell?
A	Hydrogen-oxygen cell
B	Methyl-oxygen-alcohol cell
C	Propane-oxygen cell
D	Hexanone-oxygen cell

Q.175)	The standard emf of the hydrogen-oxygen fuel cell is _____
A	1.23 V
B	2.54 V
C	3.96 V
D	0.58 V

Q.176)	What is the color of a positive plate of a lead-acid battery?
A	White
B	Grey
C	White
D	Brown

Q.177)	What is the reserve capacity of battery?
A	Time for which the battery can supply 25 A at 80°F with minimum cell voltage 1.75 V
B	The current which the battery can supply continuously for 30 seconds with minimum cell voltage 1.2 V
C	Lasting power of a battery on a small load
D	Rate of current for 20 minutes with a minimum cell voltage of 1.5 V

Q.178)	What is the cold rate of a battery?
A	Lasting power of a battery on a small load
B	Rate of current for 20 minutes with a minimum cell voltage of 1.5 V
C	The current which the battery can supply continuously for 30 seconds with minimum cell voltage 1.2 V
D	Time for which the battery can supply 25 A at 80°F with minimum cell voltage 1.75 V

Q.179)	What should a fully-charged 6 cell automotive battery indicate?
A	12 V
B	12.6 V
C	The specific gravity of 1.29 at 32°C
D	12.6 V and the specific gravity of 1.29 at 32°C

Q.180)	What is the number of positive plates in a battery cell?
A	One more than the negative plates
B	Two less than the negative plates
C	One less than the negative plates
D	Two more than the negative plates

Q.181)	What is a maintenance-free battery?
A	A battery having lead-antimony plate grid
B	A battery having lead-calcium plate grid
C	A battery does not contain acid
D	A battery does not contain water

Q.182)	Which of the following is the advantage of alkaline battery?
A	High energy density
B	Good discharge characteristics over a wide range of temperature
C	The specific gravity of electrolyte remains the same
D	Cheap raw materials are used

Q.183)	Which of the following metals cannot be electro plated?
A	Tungsten
B	Nickel
C	Silver
D	Copper

Q.184)	Which of the following is not a characteristic of electrolyte?
A	Enables transportation of electrons
B	Determines the strength of the metal
C	Determines solubility
D	Identifies discharge scale

Q.185)	The electrolyte used for tin plating is
A	sulphide ore
B	stannous sulphate
C	hydrogen sulphate
D	sodium chloride

Q.186)	Conditions for good electroplating are
A	high current density
B	low temperature
C	high concentration of metal in electrolyte
D	all of above

Q.187)	The process used to deposit one metal over another metal is called
A	Electrolysis
B	Electroplating
C	carbon plating
D	none of above

Q.188)	“The mass of an ion liberated at an electrode is directly proportional to the quantity of electricity”. The above statement is associated with
A	Newton’s law
B	Faraday’s law of electromagnetic
C	Faraday’s law of electrolysis
D	Gauss’s law

Q.189)	During the charging of a lead-acid cell
A	its voltage increases
B	it gives out energy
C	its cathode becomes dark chocolate brown in colour
D	specific gravity of H ₂ SO ₄ decreases

Q.190)	The capacity of a lead-acid cell does not depend on its (a) (b) (c) (d)
A	Temperature
B	Rate of charge
C	Rate of discharge
D	Quantity of active material

Q.191)	The active materials on the positive and negative plates of a fully charged lead-acid battery are
A	lead and lead peroxide
B	lead sulphate and lead
C	lead peroxide and lead
D	none of the above

Q.192)	The active materials of a nickel-iron battery are
A	nickel hydroxide
B	powdered iron and its oxide
C	21% solution of KOH
D	all of the above

Q.193)	The ratio of ampere-hour efficiency to watt-hour efficiency of a lead-acid cell is
A	just one
B	always greater than one
C	always less than one
D	none of the above

Q.194)	The best indication about the state of charge on a lead-acid battery is given by
A	output voltage
B	temperature of electrolyte
C	specific gravity of electrolyte
D	none of the above

Q.195)	The charge required to liberate one gram equivalent of any substance is known as _____ constant
A	Time
B	Faraday's
C	Boltzman
D	Gauss

Q.196)	7. When a lead-acid battery is in fully charged condition, the color of its positive plate is
A	dark grey
B	Brown
C	dark brown
D	none of above

Q.197)	A dead storage battery can be revived by
A	Adding distilled water
B	Adding so-called battery restorer
C	A dose of H_2SO_4
D	None of the above

Q.198)	The metal which can be extracted from its ore by the method of electrolysis is /are
A	Zinc
B	Aluminium
C	Copper
D	All of these

Q.199)	Lithium cells operates ranging from
A	-25 ° C to 25 ° C
B	-50 ° C to 25 ° C
C	-50 ° C to 75 ° C
D	-75 ° C to 75 ° C

Q.200)	The electrolyte used in soft metal Plating is _____
A	Sodium cyanide with caustic soda
B	Cyanide hexa Meta phosphate
C	Cyanide oxide
D	Cyanide peroxide